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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,431	05/31/2001	Brian E. Lemoff	AT10004212-1	2078

7590 12/16/2004

AGILENT TECHNOLOGIES, INC.
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EXAMINER	
GREY, CHRISTOPHER	

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/872,431	LEMOFF ET AL.	
	Examiner	Art Unit	
	Christopher P Grey	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 May 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 May 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because they do not appear in the order that the figures are numbered. Corrected drawing sheets are required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 3, 6, 7, 10, 11, 12, 13, 16, 17, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart (US 4745593) in view of Fenner (US 5095480)

Claim 1 Stewart discloses the transmission of a test packet from a test source to a test destination via successive nodes in a packet network (Col 1 lines 48-63). Stewart discloses (disclosed in Col 2 line 61- Col 3 line 30) the test packet originating from the source destination including destination and source fields (identification and node transit log). Stewart discloses a test result packet (acknowledgement) sent from the destination node through intermediate nodes to the source node, where the test result packet defines a successful result (Col 4 line 58- Col 5 line 29). Stewart discloses the test packet being received at an intermediate node, where at each intermediate node the receipt of an acknowledgement (augmentation) is required for further transmission (Col

3 line 39 – Col 4 line14). Stewart discloses an acknowledgement packet being sent in response to the successful reception of a test packet. This acknowledgement includes intermediate node identifications, which allows the test result packet to be sent from the destination to the source via the reverse route of the test packet (disclosed in Col 4 line 58- Col 5 line 29). Therefore the test result (second feeler packet) packet is received by each intermediate node. In order for a successful path to be defined, there must be a combination of the first test packet being sent, and the receipt of the test result packet. Stewart discloses retaining a copy of the test packet at each node (Col 3 line 39- Col 4 line14). Stewart does not disclose when the second receiver packet is found, combining the node transit log data from the first and second received feeler packets to represent a path discovered for transferring at least one data packet from the source node to the destination node.

Fenner discloses a method of communication between a transmitting node and a receiving node through a plurality of nodes. Fenner discloses a transmitting device/node transmitting an identification code defining both the sender and receiver (first feeler packet). Fenner also discloses the receiver transmitting an identification code defining the receiver (second feeler packet), destined for some other node. Fenner discloses the message being sent to the nearest routing center (node) and establishing a path between the source and receiver based on (the combination of) the unique identification codes previously mentioned (disclosed in Col 14 line 32- line 53 and see claims).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the method of transmission of data packets using

acknowledgement packets disclosed by Stewart, with the invention disclosed by Fenner, who introduces a routing method in the transmission of data from a source to a destination by the use of routing tables. The motivation for this combination is to couple a transmitter to a receiver, thus determining an effective path (disclosed within abstract). Another motivation is for fast routing table access (disclosed in Col 5 lines 54-63).

Claim 2, 12 Stewart discloses a test result packet being returned to the source node, where the test result packet includes a bit pattern copied from the test packet (disclosed in Col 3 line 39- Col 4 line19).

The motivation is the same as that for claim 1, and further motivation is for a form of acknowledgement of the receipt of a packet (Col 3 line 39- Col 4 line 19).

Claim 3, 13 Stewart discloses a routing table within each node, and a test result packet being looped back to the source node, and each routing table in the nodes within the loop back path being updated (disclosed in Col 6 lines 4-18). Stewart also discloses the retransmission of packets based on a predetermined number of seconds (disclosed in Col 3 line 39- Col 4 line14).

The motivation is the same as that for claim 1 and furthermore the motivation is to detect faults and localize such faults between two nodes (Col 1 lines 48- 63).

Claim 6, 16 Stewart discloses an acknowledgement packet being sent in response to the successful reception of a test packet. This acknowledgement includes intermediate node identifications, which allows the test result packet to be sent from the destination to the source via the reverse route of the test packet (disclosed in Col 4 line 58- Col 5 line 29). Therefore the test result (second feeler packet) is received by each

intermediate node (first receiving node). Stewart does not disclose the second feeler packet originating from the destination node.

Fenner discloses a receiver device/node transmitting a second unique identification code defining the receiver (disclosed in Col 6 line 35-53 and see claims)

The motivation is the same as that for claim 1.

Claim 7, 17 Stewart discloses a test result packet being returned to the source node, where the test result packet includes a bit pattern copied from the test packet (disclosed in Col 3 line 39- Col 4 line19). Stewart discloses a routing table within each node, and a test result packet being looped back to the source node, and each routing table in the nodes within the loop back path stores the update (disclosed in Col 6 lines 4-18). Stewart also discloses the retransmission of packets based on a predetermined number of seconds (disclosed in Col 3 line 39- Col 4 line14).

The motivation is the same as that for claim 1 and furthermore the motivation is to detect faults and localize such faults between two nodes (Col 1 lines 48- 63).

Claim 10, 20 Stewart discloses the test packet accumulating intermediate node ID fields (revising node transit log) as the packet is traversed throughout the network. Stewart also discloses a routing table for specifying (revising) a path for transmission at a source node (Col 2 line 61- Col 3 line 30). The packets transmitted are also enclosed within a link level frame including a cyclic redundancy check, which is inherently known to eliminate loops.

The motivation is the same as that for claim 1 and furthermore a motivation for rapid distribution of failure information to the nodes of the network (Stewart: disclosed in Col 2 lines 9-19).

Claim 11 Stewart discloses the transmission of a test packet from a test source to a test destination via successive nodes in a packet network test arrangement (Col 1 lines 48-63). Each node contains means (see element 11 in fig 1) of a processor, memory (storage) and interface facilities (I/O). Stewart also discloses a routing table as seen in element 408 in Fig 4. Stewart discloses (disclosed in Col 2 line 61- Col 3 line 30) the test packet originating from the source destination including destination and source fields (identification and node transit log). Stewart discloses a test result packet (acknowledgement) sent from the destination node through intermediate nodes to the source node, where the test result packet defines a successful result (Col 4 line 58- Col 5 line 29). Stewart discloses the test packet being received at an intermediate node, where at each intermediate node the receipt of an acknowledgement (augmentation) is required for further transmission (Col 3 line 39 – Col 4 line14). Stewart discloses an acknowledgement packet being sent in response to the successful reception of a test packet. This acknowledgement includes intermediate node identifications, which allows the test result packet to be sent from the destination to the source via the reverse route of the test packet (disclosed in Col 4 line 58- Col 5 line 29). Therefore the test result (second feeler packet) is received by each intermediate node. In order for a successful path to be defined, there must be a combination of the first test packet being sent, and the receipt of the test result packet. Stewart discloses retaining a copy of the test packet

at each node (Col 3 line 39- Col 4 line14). Stewart does not disclose when the second receiver packet is found, combining the node transit log data from the first and second received feeler packets to represent a path discovered for transferring at least one data packet from the source node to the destination node.

Fenner discloses a method of communication between a transmitting node and a receiving node through a plurality of nodes. Fenner discloses a transmitting device/node transmitting an identification code defining both the sender and receiver (first feeler packet). Fenner also discloses the receiver transmitting an identification code defining the receiver (second feeler packet), destined for some other node. Fenner discloses the message being sent to the nearest routing center (node) and establishing a path between the source and receiver based on (the combination of) the unique identification codes previously mentioned (disclosed in Col 14 line 32- line 53 and see claims).

The motivation is the same as that for claim 1.

3. Claims 4, 5, 14, 15, 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart and Fenner and in further view of Spiegel et al. (US 5649108)

Claim 4, 5, 14, 15 The combined inventions of Stewart and Fenner disclose a routing table within each node, and a test result packet being looped back to the source node, and each routing table in the nodes within the loop back path being updated (disclosed in Col 6 lines 4-18). The combined inventions do not disclose repeating the feeler

packet sending step (a) in response to a measure of the cost or demand of the path represented by the stored path data.

Spiegel et al. (Spiegel 'hereinafter') discloses a method for routing data from a source node to a destination node. Spiegel discloses finding a second route (repeating transmission) dependant on if a first route selected exceeds a cost threshold (Col 3 line 30-59). One skilled in the art can appreciate the same method being implemented with respect to a measure of demand rather than cost.

The motivation is the same as that for claim 2 and furthermore providing control of routing based on cost/demand.

Claim 8, 9, 18, 19 The combined inventions of Stewart and Fenner disclose a test result packet being returned to the source node, where the test result packet includes a bit pattern copied from the test packet (disclosed in Col 3 line 39- Col 4 line19). The combined inventions disclose a routing table within each node, and a test result packet being looped back to the source node, and each routing table in the nodes within the loop back path being updated (disclosed in Col 6 lines 4-18). The combined inventions do not disclose repeating the feeler packet sending in response to a measure of the cost or demand of the path represented by the stored path data.

Spiegel et al. (Spiegel 'hereinafter') discloses a method for routing data from a source node to a destination node. Spiegel discloses finding a second route (repeating transmission) dependant on if a first route selected exceeds a cost threshold (Col 3 line 30-59). One skilled in the art can appreciate the same method being implemented with respect to a measure of demand rather than cost.

The motivation is the same as that for claim 2 and furthermore providing control of routing based on cost/demand.

4. Claims 21, 22, 23, 26, 27, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart and Fenner and in further view of Niida et al. (US 6690648)

Claim 21 The combined inventions of Stewart and Fenner disclose the transmission of a test packet from a test source to a test destination via successive nodes in a packet network (Col 1 lines 48-63). Within the node is a processor (see element 11 in fig 1), inherently encouraging a computer program product. The combined invention discloses (disclosed in Col 2 line 61- Col 3 line 30) the test packet originating from the source destination including destination and source fields (identification and node transit log). The combined inventions disclose a test result packet (acknowledgement) sent from the destination node through intermediate nodes to the source node, where the test result packet defines a successful result (Col 4 line 58- Col 5 line 29). The combined inventions disclose the test packet being received at an intermediate node, where at each intermediate node the receipt of an acknowledgement (augmentation) is required for further transmission (Col 3 line 39 – Col 4 line14). The combined inventions disclose an acknowledgement packet being sent in response to the successful reception of a test packet. This acknowledgement includes intermediate node identifications, which allows the test result packet to be sent from the destination to the source via the reverse route of the test packet (disclosed in Col 4 line 58- Col 5 line 29). Therefore the test result (second feeler packet) packet is received by each intermediate node. In order for a

successful path to be defined, one skilled in the art can appreciate that there must be a combination of the first test packet being sent, and the receipt of the test result packet. The combined inventions disclose retaining a copy of the test packet at each node (Col 3 line 39- Col 4 line14).

The combined inventions disclose a method of communication between a transmitting node and a receiving node through a plurality of nodes. The combined invention discloses a transmitting device/node transmitting an identification code defining both the sender and receiver (first feeler packet). The combined inventions also disclose the receiver transmitting an identification code defining the receiver (second feeler packet), destined for some other node. The combined inventions disclose the message being sent to the nearest routing center (node) and establishing a path between the source and receiver based on (the combination of) the unique identification codes previously mentioned (disclosed in Col 14 line 32- line 53 and see claims). The combined inventions do not disclose a recording medium.

Niida et al. (Niida 'hereinafter') discloses a communication system in which a source node and one or more destination nodes are logically connected and an identifier is used to control the routing of data between these nodes. Niida discloses a digital video camera recorder (disclosed in Col 6 lines 46- 48).

The motivation to combine the teachings of Niida with the combined inventions of Stewart and Fenner is to implement a recording medium allowing for the invention to be applicable in the process of recording.

Claim 22 The combined inventions disclose a test result packet being returned to the source node, where the test result packet includes a bit pattern copied from the test packet (disclosed in Col 3 line 39- Col 4 line19).

The motivation is the same as that for claim 21, and further motivation is for a form of acknowledgement of the receipt of a packet (Col 3 line 39- Col 4 line 19).

Claim 23 The combined inventions disclose a routing table within each node, and a test result packet being looped back to the source node, and each routing table in the nodes within the loop back path being updated (disclosed in Col 6 lines 4-18). The combined inventions also disclose the retransmission of packets based on a predetermined number of seconds (disclosed in Col 3 line 39- Col 4 line14).

The motivation is the same as that for claim 21 and furthermore the motivation is to detect faults and localize such faults between two nodes (Col 1 lines 48- 63).

Claim 26 The combined inventions disclose an acknowledgement packet being sent in response to the successful reception of a test packet. This acknowledgement includes intermediate node identifications, which allows the test result packet to be sent from the destination to the source via the reverse route of the test packet (disclosed in Col 4 line 58- Col 5 line 29). Therefore the test result (second feeler packet) is received by each intermediate node (first receiving node).

The combined inventions discloses a receiver device/node transmitting a second unique identification code defining the receiver (disclosed in Col 6 line 35-53 and see claims)

The motivation is the same as that for claim 21.

Claim 27 The combined inventions disclose a test result packet being returned to the source node, where the test result packet includes a bit pattern copied from the test packet (disclosed in Col 3 line 39- Col 4 line19). The combined inventions discloses a routing table within each node, and a test result packet being looped back to the source node, and each routing table in the nodes within the loop back path being updated (disclosed in Col 6 lines 4-18). The combined inventions also disclose the retransmission of packets based on a predetermined number of seconds (disclosed in Col 3 line 39- Col 4 line14).

The motivation is the same as that for claim 21 and furthermore the motivation is to detect faults and localize such faults between two nodes (Col 1 lines 48- 63).

Claim 30 The combined inventions disclose the test packet accumulating intermediate node ID fields (revising node transit log) as the packet is traverses throughout the network. The packets transmitted are also enclosed within a link level frame including a cyclic redundancy check, which is inherently known to eliminate loops.

The motivation to combine the teachings of Niida with the combined inventions for rapid distribution of failure information to the nodes of the network (Stewart: disclosed in Col 2 lines 9-19).

5. Claims 24, 25, 28, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart and Fenner and in view of Niida et al. and in further view of Spiegel et al. (US 5649108)

Claim 24, 25 The combined inventions of Stewart, Fenner and Niida disclose a routing table within each node, and a test result packet being looped back to the source node, and each routing table in the nodes within the loop back path being updated (disclosed in Col 6 lines 4-18). The combined inventions do not disclose repeating the feeler packet in response to a measure of the cost or demand of the path represented by the stored path data.

Spiegel et al. (Spiegel 'hereinafter') discloses a method for routing data from a source node to a destination node. Spiegel discloses finding a second route (repeating transmission) dependant on if a first route selected exceeds a cost threshold (Col 3 line 30-59). One skilled in the art can appreciate the same method being implemented with respect to a measure of demand rather than cost.

The motivation to combine the teachings of Spiegel and the combined inventions is to provide control of routing based on cost/demand.

Claim 28, 29 The combined inventions disclose a test result packet being returned to the source node, where the test result packet includes a bit pattern copied from the test packet (disclosed in Col 3 line 39- Col 4 line19). The combined inventions disclose a routing table within each node, and a test result packet being looped back to the source node, and each routing table in the nodes within the loop back path being updated (disclosed in Col 6 lines 4-18). The combined inventions do not disclose repeating the feeler packet sending in response to a measure of the cost or demand of the path represented by the stored path data.

Spiegel discloses a method for routing data from a source node to a destination node. Spiegel discloses finding a second route (repeating transmission) dependant on if a first route selected exceeds a cost threshold (Col 3 line 30-59). One skilled in the art can appreciate the same method being implemented with respect to a measure of demand rather than cost.

The motivation to combine the teachings of Spiegel and the combined inventions is to provide control of routing based on cost/demand.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P Grey whose telephone number is (571)272-3160. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Grey
Examiner
Art Unit 2667
12/8/04

AFSAR QURESHI
PATENT EXAMINER
12/9/04